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**Before the**
**FEDERAL COMMUNICATIONS COMMISSION**
**Washington, D.C. 20554**

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FEDERAL COMMUNICATIONS COMMISSION
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| In the Matter of | ) | |
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| Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610 - 1626.5 and 2483.5 - 2500 MHz Frequency Bands | ) | CC Docket No.92-166 |

To: The Commission

## COMMENTS OF TELEDESIC CORPORATION

Teledesic Corporation ("Teledesic"), by its attorneys, and pursuant to Section 1.415 of the rules and regulations of the Federal Communications Commission ("FCC" or "Commission"), 47 C.F.R. § 1.415 (1992), hereby submits its Comments in the above-captioned proceeding. In this proceeding, the Commission has proposed to locate the feeder links of applicants for FCC authority to construct non-geostationary satellite systems in the mobile satellite service (the "Big LEO Applicants") in the 27.5 to 30.0 band ("Ka band") even though three of the Big LEO Applicants have requested spectrum allocations elsewhere. Teledesic is an applicant for authority to construct, launch and operate a Low-Earth orbit ("LEO") satellite system in the Ka band. Teledesic urges the Commission not to relocate the feeder links of the three Big LEO Applicants to the Ka band. As demonstrated below, to do so will unduly complicate and delay licensing of existing applicants for Ka band spectrum.

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## I. BACKGROUND

By a Notice of Proposed Rulemaking released on February 18, 1994, the Commission proposed a variety of licensing and operating rules and procedures pertaining to the Big LEO Applicants, including the relocation of certain feeder links. Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610 - 1626.5 / 2483.5 - 2500 MHz Frequency Bands, 9 FCC Rcd 1094, 1131-32 (1994) ("Big LEO Notice"). The Big LEO Notice resulted in part from the inability of a negotiated rulemaking committee, the "MSS Above 1 GHz Negotiated Rulemaking Committee" ("MSS Committee"), to develop an inter-system sharing proposal to accommodate all of the Big LEO Applicants. Id. at 1099-1100.

While two of the Big LEO Applicants propose to locate their feeder links in the Ka band, three of the Big LEO Applicants are on record stating that they would prefer to locate the feeder links for their proposed systems in bands below 15 GHz. Specifically, TRW, Inc. ("TRW") applied for authority to use a portion of the 29.5 - 30.0 GHz band, see Comments of TRW Inc., CC Docket No. 92-297 at 1 (March 21, 1994), and Motorola Satellite Communications, Inc. ("Motorola") applied for authority to operate feeder links in the 29.1 - 29.3 GHz band. See Comments of Motorola Satellite Communications, Inc., CC Docket No. 92-297 at 3 (March 21, 1994). The remaining applicants, Ellipsat Corporation ("Ellipsat"), Constellation Communications, Inc. ("Constellation"), and Loral Qualcomm Satellite Services, Inc.

("LQSS"), each requested 66 MHz of spectrum in each transmission direction in the 5 or 6 GHz bands. Big LEO Notice, 9 Fcc Rcd at 1129.

Teledesic urges the Commission to not relocate the feeder links of Ellipsat, Constellation and LQSS to the Ka band. To do so will needlessly complicate the negotiated rulemaking proposed to resolve spectrum allocation and sharing issues in the Ka band among satellite and local multipoint distribution service ("LMDS") interests. See Request for Comments, 59 Fed. Reg. 7961 (Feb. 17, 1994) ("Request"). In Comments filed in response to the Commission's Request, Ellipsat, Constellation and LQSS each restated its preference to locate system feeder links in bands other than the Ka band. See Comments of Ellipsat Corporation, CC Docket No. 92-297 at 5-6 (March 21, 1994) ("Ellipsat Comments"); Response of Constellation Communications, Inc., CC Docket No. 92-297 at 1 (March 21, 1994); Application for Membership and Comments of Loral Qualcomm Satellite Services, Inc., CC Docket No. 92-297 at 6-8 (March 21, 1994) ("LQSS Comments"). Substantial design changes will be required to move their feeder links into the Ka band. The comments also make clear that inclusion of these three feeder link applicants in the LMDS Negotiated Rulemaking will introduce additional issues to the proceeding and delay licensing of Ka band satellite systems. See Ellipsat Comments, at 2-3; see also LQSS Comments, at 6.

The complexity of determining spectrum allocations in the Ka band has increased significantly since the Commission first

envisioned moving all feeder link allocations for the Big LEO Applicants there. Teledesic filed an application with the FCC on March 21, 1994 requesting authority to construct, launch and operate a LEO satellite system in the fixed satellite service ("FSS") in the Ka band. See Application of Teledesic Corporation, File No. 22-DSS-P/LA-94 (March 21, 1994), as amended. Hughes Communications Galaxy, Inc. ("Hughes") has applied for FCC authority to construct, launch and operate a domestic geostationary satellite system in the FSS in the Ka band. See Application of Hughes Communications Galaxy, Inc., File Nos. 3 DSS-P/LA-95, 4 DSS-P/LA-94 (Dec. 3, 1993). Teledesic, Hughes and the Big LEO Applicants all are interested parties eligible to participate in the LMDS Negotiated Rulemaking by virtue of their interests in the Ka band. See Big LEO Notice, 9 FCC Rcd at 1131-32; see also Request, 59 Fed. Reg. at 7962.

Whereas previously accommodation of all Big LEO Applicants' feeder link requirements may have seemed a simple alternative to locating spectrum below 15 GHz, today the task is far more complicated and will impede the prompt resolution of the LMDS Negotiated Rulemaking. Ironically, the Commission justified its proposal to locate all Big LEO Applicants' feeder links in the Ka band as a means to avoid "delay [in] the licensing and implementation of the MSS Above 1 GHz systems." Big LEO Notice, 9 FCC Rcd at 1131. However, such action inevitably will delay the licensing and implementation of satellite and LMDS systems already proposed in the Ka band as well as licensing of the Big

LEO Applicants. By moving additional feeder link allocations into the Ka band, the Commission will introduce two new issues to the LMDS Negotiated Rulemaking: first, whether LMDS can share spectrum with additional satellite interests not heretofore considered; and second, whether the additional applicants for feeder link spectrum will be mutually exclusive with existing satellite applicants in the Ka band. While the parties to the LMDS Negotiated Rulemaking have substantial areas of disagreement, they all agree that delaying the progress of the LMDS Negotiated Rulemaking would be extremely detrimental.

## II. INCLUSION OF THE ADDITIONAL BIG LEO APPLICANTS WILL DELAY THE LMDS NEGOTIATED RULEMAKING BY NECESSITATING AN ADDITIONAL DETERMINATION OF WHETHER SHARING BETWEEN LMDS AND SATELLITE INTERESTS IN THE KA BAND IS FEASIBLE.

In the Big LEO Notice, the Commission expressed its belief that it could identify sufficient spectrum in the 27.5 - 30.0 GHz band for MSS feeder links in the context of the LMDS Negotiated Rulemaking. Big LEO Notice, 9 FCC Rcd at 1131-32. However, the history of the rulemaking involving the Big LEO Applicants indicates that any proposed inclusion of the feeder links of Ellipsat, Constellation, and LQSS in the Ka band will delay the LMDS Negotiated Rulemaking and unnecessarily complicate an already complex proceeding. If the Commission's proposal is adopted, the LMDS Negotiated Rulemaking will have to be expanded to include analysis of interference between LMDS and the three additional Big LEO Applicants.

The MSS Committee studied only whether the feeder links of the Motorola system can share spectrum with LMDS and concluded

that "unacceptable interference" will result. Id. at 1131. Based on the record developed by the MSS Committee, it would appear that there also will be unacceptable interference between LMDS and the feeder links of Ellipsat, Constellation and LQSS. Moreover, since April 1993, when the MSS Committee's term expired, demand for Ka band spectrum has increased significantly because Teledesic and Hughes each filed satellite system applications. By adding three additional applicants for Ka band spectrum for feeder links, the LMDS Negotiated Rulemaking will be required to analyze interference between the three additional satellite systems even though there is no indication that the unacceptable interference between Motorola and LMDS will not also occur with respect to LMDS and LQSS, Ellipsat and Constellation. This additional interference analysis will only complicate the mission and impede the progress of the LMDS Negotiated Rulemaking.

Importantly, by moving these three systems' feeder link requests into the Ka band, the Commission also will be going beyond the scope of the issues considered by the MSS Committee. Such a result is contrary to the Commission's express intent to honor the work of the MSS Committee by making it the basis for proposed rules. Big LEO Notice, 9 FCC Rcd at 1100. The Commission also has stated that even where the MSS Committee reached no consensus, the FCC nonetheless will consider the input of the MSS Committee members. Big LEO Notice, 9 FCC Rcd at 1100 & n.26. The Commission's current proposal to move all feeder

links into the Ka band undermines this objective not only because the MSS Committee never considered the issue but also because the filed comments of the Big LEO Applicants reveal their acute interests in locating feeder links outside of the Ka band.

Based on the foregoing, the Commission should not locate the feeder links of Ellipsat, LQSS and Constellation in the Ka band because to do so will complicate and delay the progress of the LMDS Negotiated Rulemaking. Moreover, the Commission should limit its evaluation to the requests of the three Big LEO Applicants to locate feeder links in the bands below 15 GHz and not consider alternatives that the applicants themselves find undesirable.

**III. INCLUSION OF THE ADDITIONAL BIG LEO APPLICANTS WILL DELAY THE LMDS NEGOTIATED RULEMAKING BY NECESSITATING A DETERMINATION OF WHETHER SHARING AMONG SATELLITE SYSTEMS IN THE KA BAND IS FEASIBLE.**

Even if the Commission was confident that the LMDS Negotiated Rulemaking can quickly resolve LMDS sharing issues not previously addressed by the MSS Committee, inclusion of the three additional feeder link requests will delay licensing of Ka band applicants by requiring the consideration of additional sharing issues among satellite systems. A primary goal of the LMDS Negotiated Rulemaking is to accommodate all Ka band applicants, including satellite applicants. Request, 59 Fed. Reg. at 7962. However, the Commission will negatively impact this objective by including the feeder link requests of Ellipsat, Constellation and LQSS in the Ka band.

As already demonstrated, substantial demand exists today for Ka band spectrum. Moreover, the demand for Ka band spectrum by satellite proponents is exacerbated because the Big LEO Applicants claim that their feeder links require more spectrum -- perhaps twice as much -- when located in the Ka band as opposed to lower frequencies. LQSS, for example, contends that its system may require 400 MHz of spectrum for feeder links in the Ka band as opposed to only 150 to 200 MHz for feeder links in lower bands. See LQSS Comments, at 6. Based on the Big LEO Applicants' claims, between 900 and 1100 MHz of spectrum in each direction will be required for their feeder links in the Ka band. If these estimates are accepted, then the additional claims to Ka band spectrum will have to be resolved before licensing can proceed, and it is likely that the additional feeder link requests to some extent will be mutually exclusive with existing and future satellite applicants. As satellite applicants are forced to resolve sharing issues with Ellipsat, LQSS and Constellation, the LMDS Negotiated Rulemaking will be further delayed.

Consequently, the Commission should not complicate the situation more by including additional spectrum requests in the Ka band. In light of the fact that Ellipsat, Constellation and LQSS each prefer to locate their system feeder links outside of the Ka band, the delays that will occur if the FCC ignores their requests will be especially unfair to all satellite applicants.

## IV. CONCLUSION

For the foregoing reasons, Teledesic respectfully requests that the Commission not relocate the feeder links of the Constellation, Ellipsat and LQSS satellite systems to the Ka band.

Respectfully submitted,

TELEDESIC CORPORATION

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